Feedback — I. Introduction

You submitted this quiz on **Mon 17 Mar 2014 7:41 AM IST**. You got a score of **5.00** out of **5.00**.

Question 1

A computer program is said to learn from experience E with respect to some task T and some performance measure P if its performance on T, as measured by P, improves with experience E. Suppose we feed a learning algorithm a lot of historical weather data, and have it learn to predict weather. In this setting, what is T?

Your Answer		Score	Explanation
○ The process of the algorithm examining a large amount of historical weather data.			
○ None of these.			
○ The probability of it correctly predicting a future date's weather.			
◉ The weather prediction task.	✔	1.00	The task described is weather prediction, so this is Task T.
Total		1.00 / 1.00	

Question 2

Suppose you are working on weather prediction, and your weather station makes one of three predictions for each day's weather: Sunny, Cloudy or Rainy. You'd like to use a learning algorithm to predict tomorrow's weather. Would you treat this as a classification or a regression problem?

Your Answer		Score	Explanation
◉ Classification	✔	1.00	Classification is appropriate when we are trying to predict one of a small number of discrete-valued outputs, such as whether it is Sunny (which we might designate as class 0), Cloudy (say class

1) or Rainy (class 2).

○
Regression

Total	1.00 / 1.00

Question 3

Suppose you are working on stock market prediction, and you would like to predict the price of a particular stock tomorrow (measured in dollars). You want to use a learning algorithm for this. Would you treat this as a classification or a regression problem?

Your Answer		Score	Explanation
⦿ Regression	✔	1.00	Regression is appropriate when we are trying to predict a continuous-valued output, since as the price of a stock (similar to the housing prices example in the lectures).
○ Classification			
Total		1.00 / 1.00	

Question 4

Some of the problems below are best addressed using a supervised learning algorithm, and the others with an unsupervised learning algorithm. Which of the following would you apply supervised learning to? (Select all that apply.) In each case, assume some appropriate dataset is available for your algorithm to learn from.

Your Answer	Score	Explanation
☐ Examine a large collection of emails that are known to be spam email, to discover if there are sub-types of spam mail.	✔ 0.25	This can addressed using a clustering (unsupervised learning) algorithm, to cluster spam mail into sub-types.
☑ Given 50 articles written by	✔ 0.25	This can be addressed as a supervised

☑ Given 50 articles written by
male authors, and 50 articles
written by female authors,
learn to predict the gender of a
new manuscript's author (when
the identity of this author is
unknown).

This can be addressed as a supervised
learning, classification, problem, where we
learn from the labeled data to predict gender.

☑ Examine the statistics of two football teams, and predicting which team will win tomorrow's match (given historical data of teams' wins/losses to learn from).	✔ 0.25	This can be addressed using supervised learning, in which we learn from historical records to make win/loss predictions.
☐ Given a large dataset of medical records from patients suffering from heart disease, try to learn whether there might be different clusters of such patients for which we might tailor separate treatements.	✔ 0.25	This can be addressed using an unsupervised learning, clustering, algorithm, in which we group patients into different clusters.
Total	1.00 / 1.00	

Question 5

Which of these is a reasonable definition of machine learning?

Your Answer	Score	Explanation
○ Machine learning is the field of allowing robots to act intelligently.		
○ Machine learning is the science of programming computers.		
○ Machine learning means from labeled data.		
◉ Machine learning is the field of study that gives computers the ability to learn without being explicitly programmed.	✔ 1.00	This was the definition given by Arthur Samuel (who had written the famous checkers playing, learning program).
Total	1.00 / 1.00	